

Claims

1. Method to retrieve RDS information by filtering and transforming an incoming multiplex signal ($m(t)$) into an amplitude demodulated RDS signal ($m_{rds}(t)$), **characterized in that** an amplitude modulated RDS signal ($m_c(t)$) is derived on basis of an intermediate signal ($m_a(t)$) obtained during an extraction 5 of a stereo-difference signal ($m_d(t)$) from the incoming multiplex signal ($m(t)$).
2. Method according to claim 1, **characterized in that** the intermediate signal ($m_a(t)$) is obtained by multiplying the multiplex signal ($m(t)$) with the second harmonic of a pilot carrier ($2\sin(2\omega_{pil}t)$). 10
3. Method according to claim 1 or 2, **characterized in that** the amplitude modulated RDS signal ($m_c(t)$) is derived by subtracting a stereo-sum signal ($m_s(t)$) multiplied by the second harmonic of a pilot carrier ($2\sin(2\omega_{pil}t)$) from 15 the intermediate signal ($m_a(t)$).
4. Method according to claim 1 or 2, **characterized in that** the amplitude modulated RDS signal ($m_c(t)$) is set to be the intermediate signal ($m_a(t)$).
- 20 5. Method according to ~~any one of claims 1 to 4~~, **characterized by:**
- amplitude demodulation of the amplitude modulated RDS signal ($m_c(t)$);
and
- decoding the amplitude demodulated RDS signal ($m_{rds}(t)$).
- 25 6. Method according to claim 5, **characterized in that** the amplitude demodulation of the amplitude modulated RDS signal ($m_c(t)$) is performed by a coherent amplitude demodulation with a carrier which is recovered by a CO-STAS-loop from the amplitude modulated RDS signal.
- 30 7. Method according to claim 5, **characterized in that** the amplitude demodulation of the amplitude modulated RDS signal ($m_c(t)$) into a RDS baseband signal ($m_{cL}(t)$) is performed by a complex demodulation.
8. Method according to claim 7, **characterized in that** the complex carrier needed for the complex demodulation is output from a digital PLL-circuit (17)

1 for pilot carrier recovery.

9. Method according to claim 7 or 8, characterized in that the carrier of the RDS signal ($m_{rds}(t)$) is recovered with a COSTAS-loop locking to the RDS baseband signal ($m_{cL}(t)$).

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10. Method according to anyone of claims 1 to 9, characterized in that the intermediate signal ($m_a(t)$) is obtained on basis of a sampling rate decimated stereo-difference signal ($m_d(t)$).

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11. Method according to anyone of claims 1 to 10, characterized by a sampling rate decimation to obtain carriers for the respective demodulations.

12. Method according to anyone of claims 1 to 11, characterized by a sampling rate decimation of the RDS baseband signal ($m_{cL}(t)$).

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13. RDS demodulator, characterized in that it is adapted to operate according to the method defined in anyone of claims 1 to 12.

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